

1.8 Results of Tests Gamma Locating Device (GLD) of Objects of Nuclear Industry

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Abstract

The first prototype of GLD was successfully applied at liquidation of consequences of emergency at Chernobyl NPP in May, 1986.

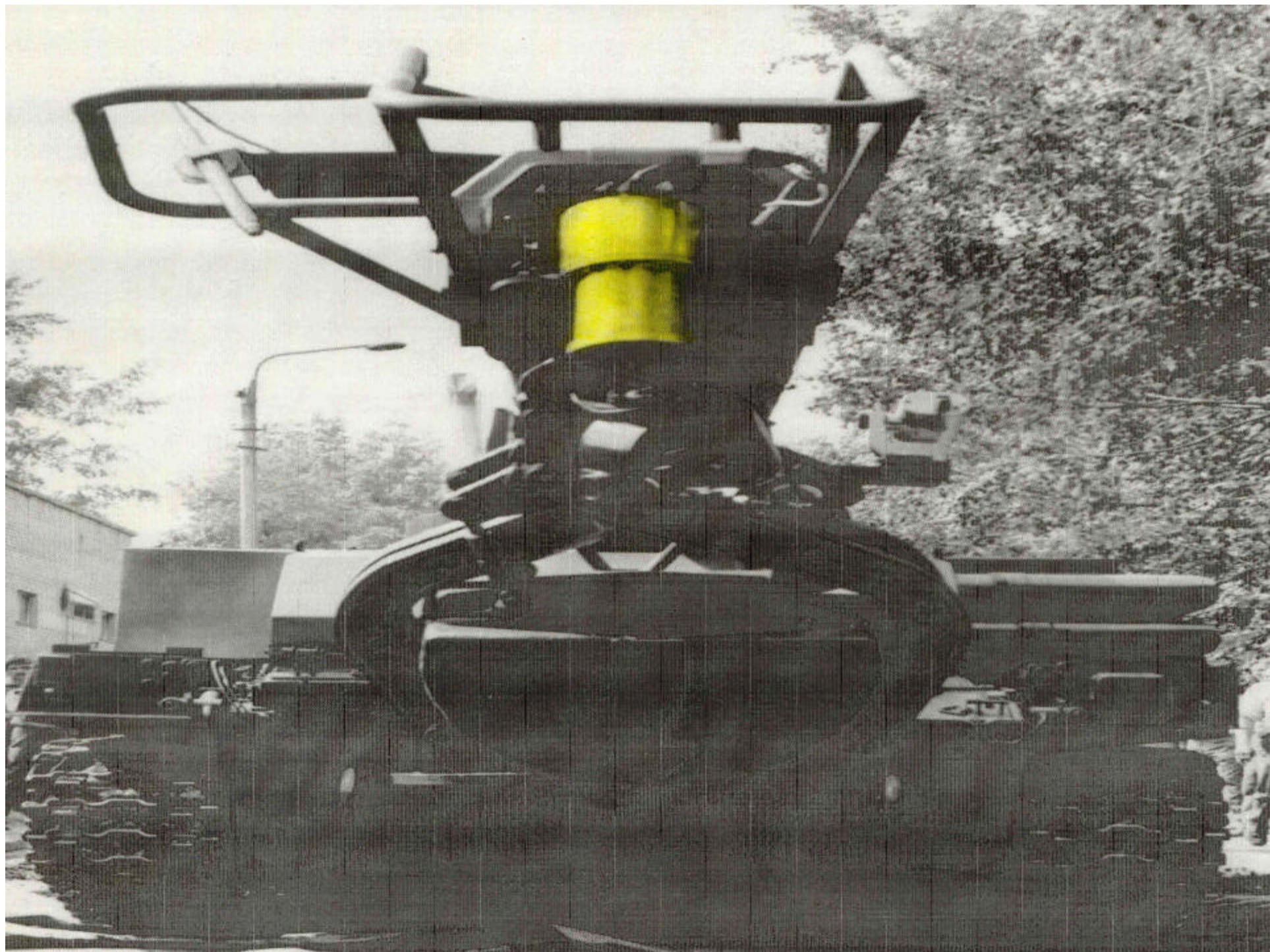
In 1996 the tests of Gamma-locator GLD-2 on the operational unit Smolensk NPP were conducted.

In July-August 2001 the Large Scale Demonstration of the Russian technology of detection and identification of radioactive sources on the objects TAN-616 and PBF (cubicle 13) of INEEL at Idaho with usage of GLD-3 and the American robot ATRV-Jr was conducted.

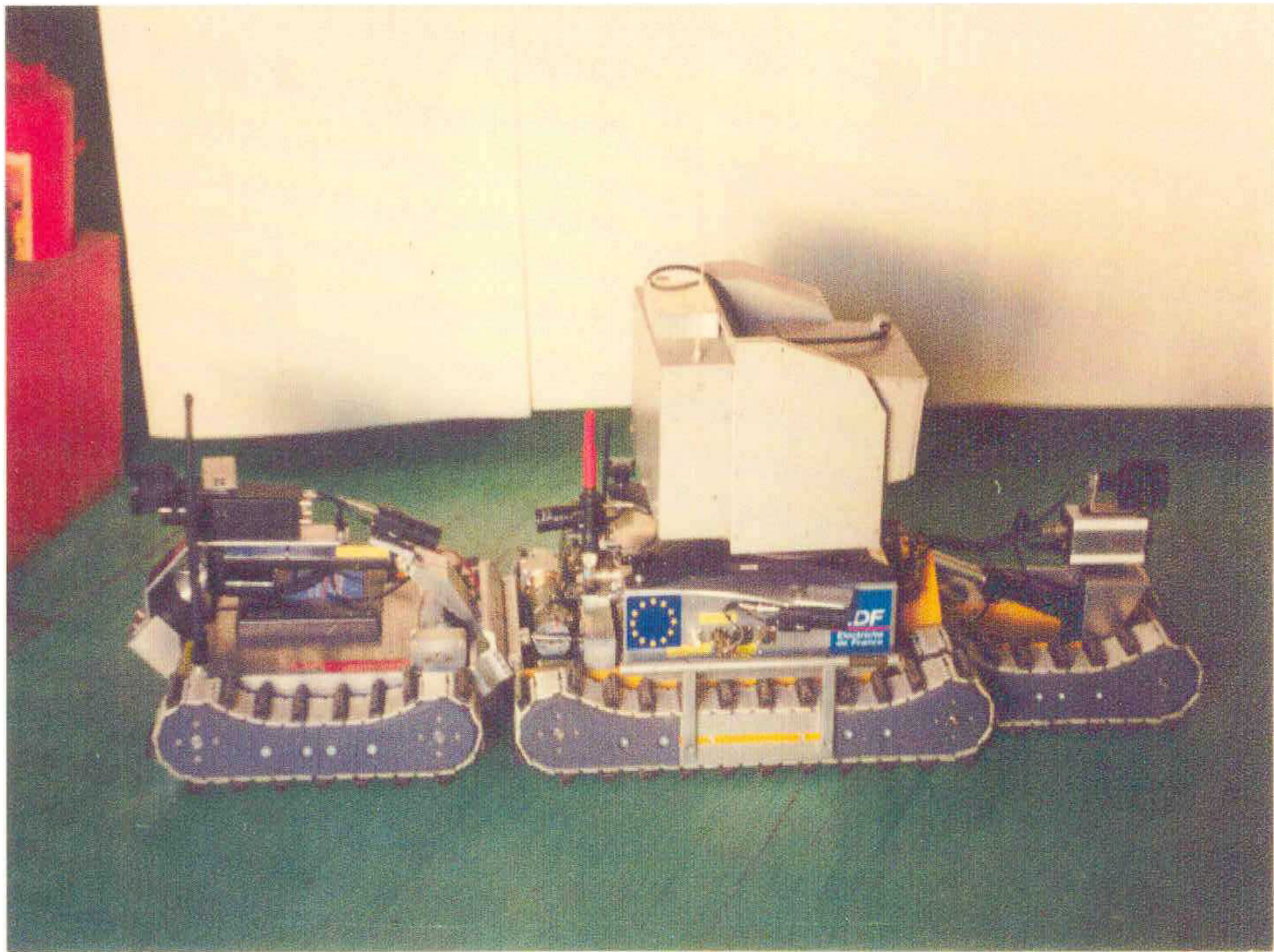
Comparison of the results which were obtained remotely by GLD-3 with direct measurements has shown a good conformity as location of detected “hot spots” and their isotopic composition. TV and radio communication during demonstration was steady.

On the meeting after demonstration of the American and Russian specialists was produced analysis of the results. It was marked that demonstration was successful and some proposals were discussed for commercialization of the project.

Now all these proposals are taken into account.





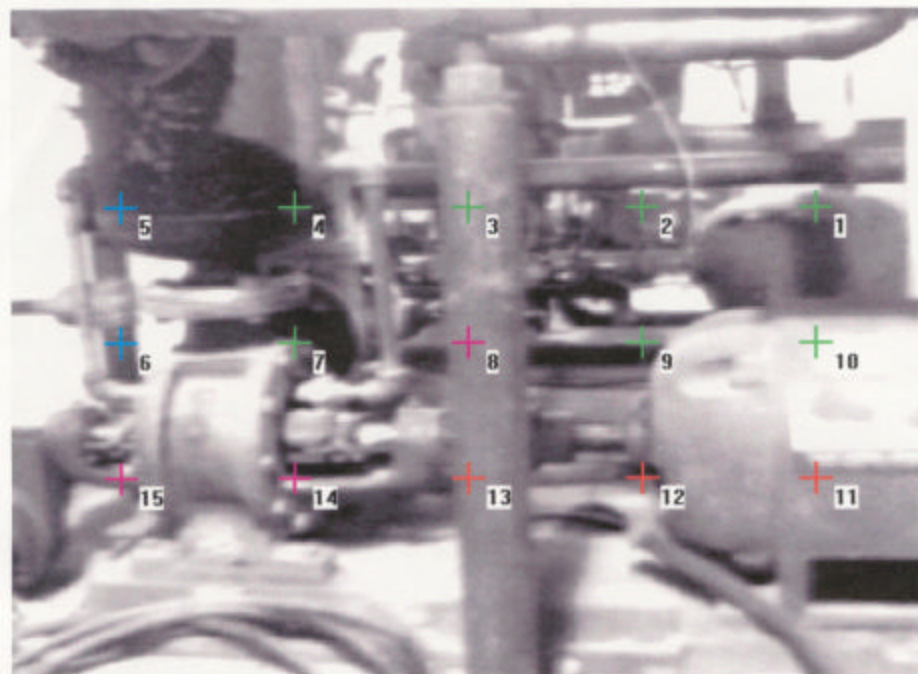








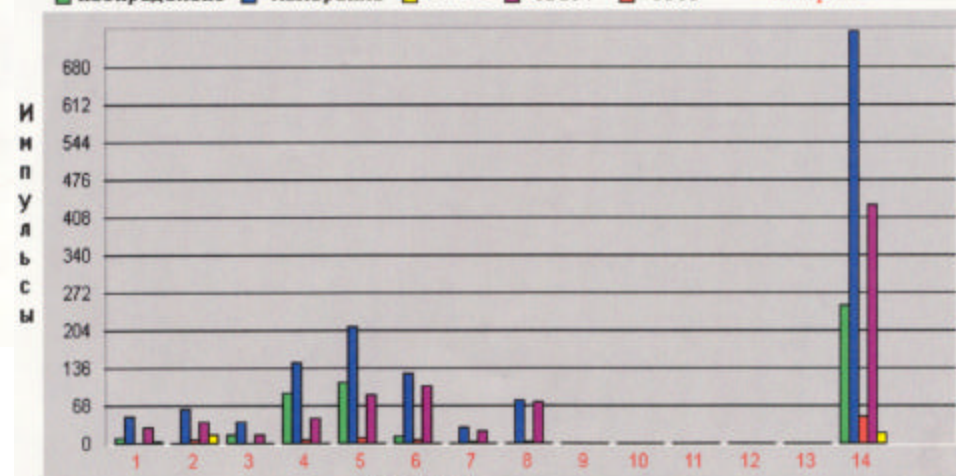
C:\GAMMA\DATA1\TAN23.GLD



0,0 157,1 314,3 471,4 628,6 785,7 942,9 1100,0 нм

C:\GAMMA\DATA1\TAN23.GLD 26.7.2001 1:55 X=-7,9 Y=-19,1 T(c) =10

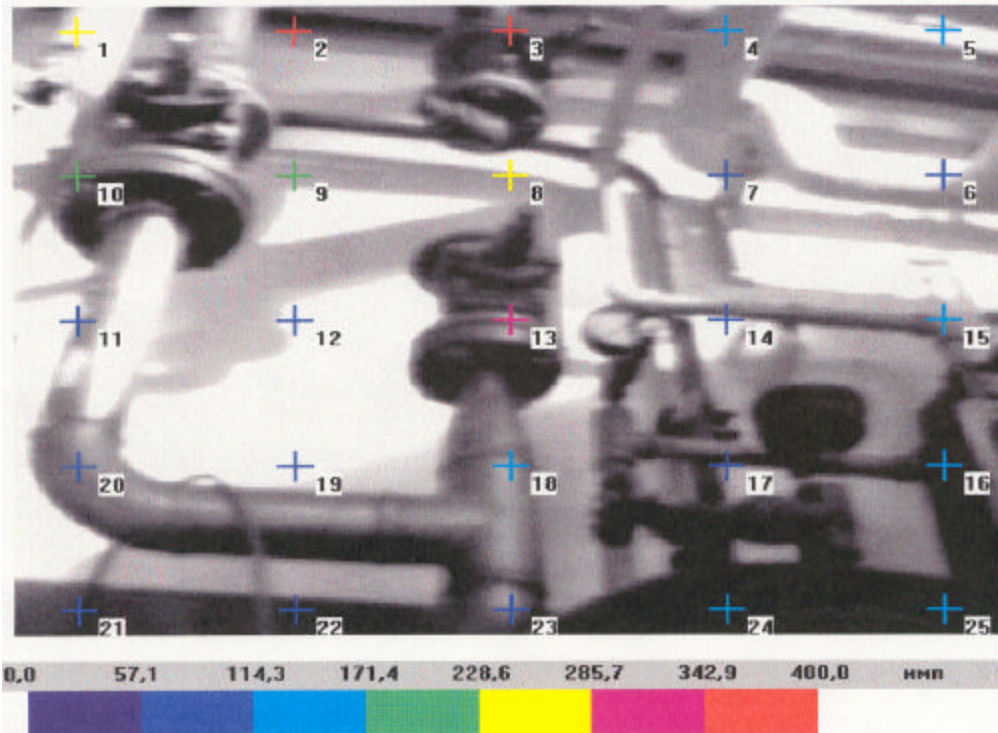
■ Неопределено ■ Измерение ■ Am241 ■ Cs137 ■ Co60 Измерение



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Неопр	12	0	18	93	111	15	0	0	0	0	0	0	0	249
Измер	50	63	39	147	211	126	30	80	3	0	1	0	0	750
Co60	1	7	3	8	11	7	5	4	2	0	1	0	0	49
Cs137	32	39	18	46	89	104	25	76	1	0	0	0	0	430
Am241	5	17	0	0	0	0	0	0	0	0	0	0	0	22

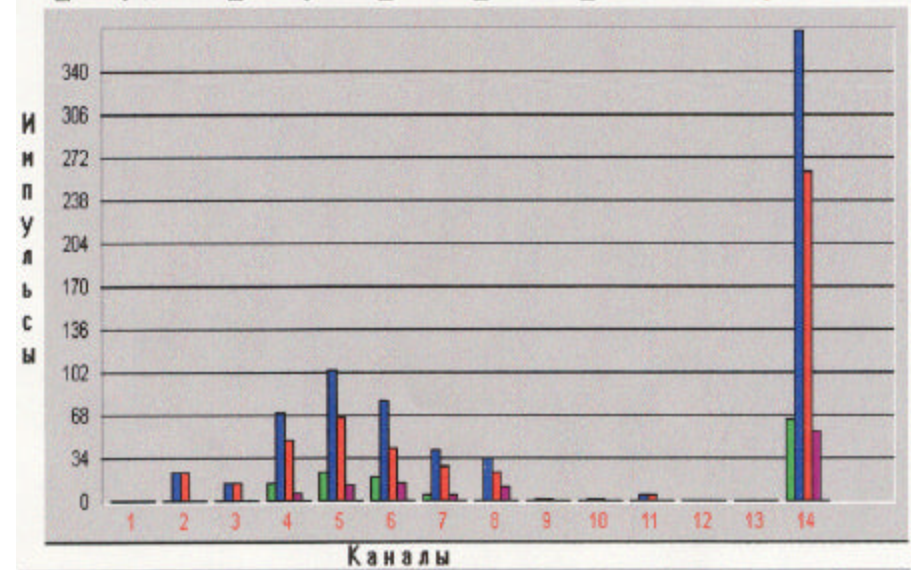
	P(p/c)	A(изот)
Co60	3,3903E-08	1,7824E-04
Cs137	2,9752E-07	6,4931E-03
Am241	1,5222E-08	1,6806E-05
Изотроп(p/c)	1,0000E-02	

C:\GAMMA\DATA1\TAN9.GLD



C:\GAMMA\DATA1\TAN9.GLD 24.7.2001 0:43 X=89,4 Y=64,3 T(c) =15

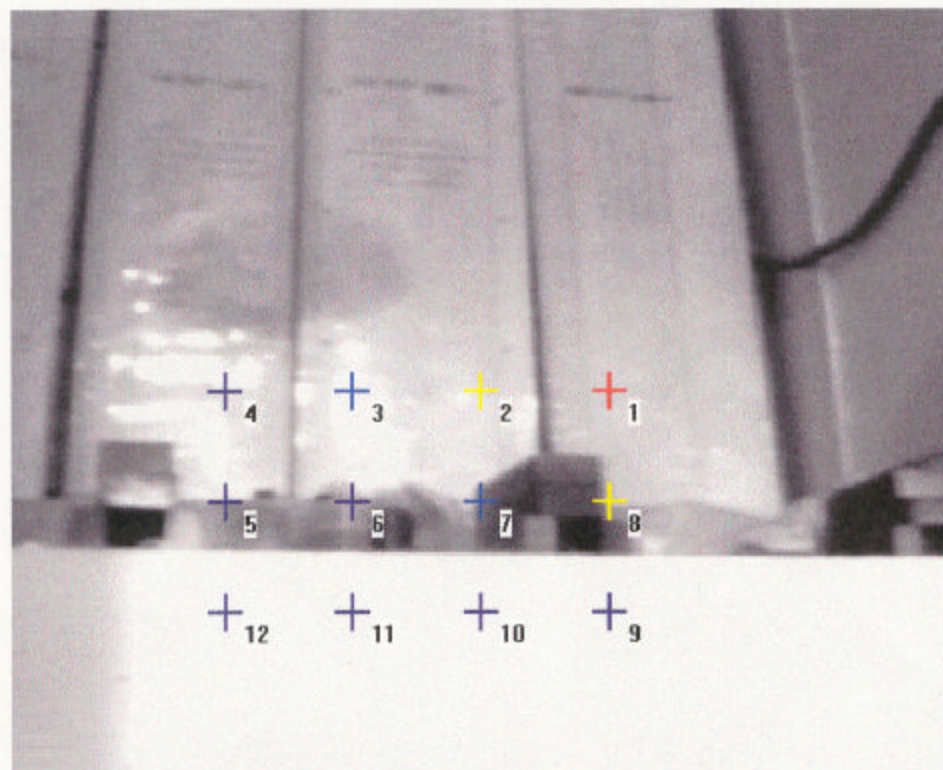
■ Неопределено ■ Измерение ■ Am241 ■ Cs137 ■ Co60 Измерение



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Неопр	0	0	0	15	23	21	6	0	0	0	0	1	0	66
Измер	0	23	16	71	104	80	41	35	3	2	6	1	1	383
Co60	0	23	15	49	67	43	29	23	3	2	6	0	1	261
Cs137	0	0	1	7	14	16	6	12	0	0	0	0	0	56
Am241	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	P(p/c)	A(изот)
Co60	1,2039E-07	1,2561E-03
Cs137	2,5831E-08	1,1188E-03
Am241	0,0000E+00	0,0000E+00
Изотроп(p/c)	0,0000E+00	

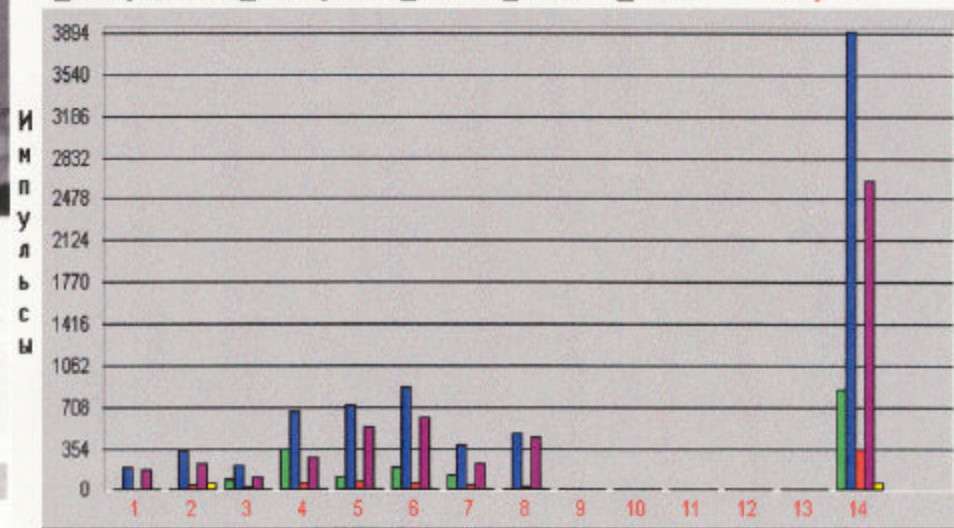
C:\GAMMA\DATA1\PBF10.GLD



300,0 685,7 1071,4 1457,1 1842,9 2228,6 2614,3 3000,0 нм

C:\GAMMA\DATA1\PBF10.GLD 31.7.2001 2:32 X=-80,0 Y=21,2 T(c) =5

■ Неопределено ■ Измерение ■ Am241 ■ Cs137 ■ Co60 Измерение



	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Неопр	0	0	85	340	113	193	125	0	0	0	0	0	5	861
Измер	189	338	211	671	726	869	380	483	5	9	7	2	12	3902
Co60	7	48	18	57	78	51	34	27	5	9	7	0	1	342
Cs137	182	235	107	274	535	625	221	456	0	0	0	2	6	2643
Am241	0	55	1	0	0	0	0	0	0	0	0	0	0	56

	P(p/c)	A(кюри)
Co60	4,7326E-07	5,3558E-03
Cs137	3,6574E-06	1,7182E-01
Am241	7,7493E-08	1,8416E-04
Изотроп(p/c)	1,0000E-02	